

Patent claims:

1. The use of polymers, in the form of their polymer powders or as an aqueous polymer dispersion, for starch modification, characterized in that polymers stabilized with a protective colloid and/or emulsifier and comprising one or more comonomer units from the group consisting of vinyl esters of straight-chain or branched alkylcarboxylic acids having 1 to 18 carbon atoms, acrylates or methacrylates of branched or straight-chain alcohols having 1 to 15 carbon atoms, dienes, olefins, vinylaromatics and vinyl halides are used, which polymers optionally also contain from 0.1 to 20.0% by weight of functional comonomer units from the group consisting of carboxyl-, hydroxyl-, epoxy- and NH-functional, ethylenically unsaturated comonomers, the data in % by weight being based on the total weight of the polymer.
5
10
15
20
2. The use as claimed in claim 1, characterized in that polymers comprising one or more comonomer units from the group consisting of vinyl esters of straight-chain or branched carboxylic acids having 1 to 18 carbon atoms are used.
25
3. The use as claimed in claim 1 or 2, characterized in that from 0.1 to 20% by weight, based on the total weight of the polymer, of one or more comonomer units from the group consisting of carboxy-functional, hydroxy-functional, epoxy-functional and NH-functional comonomers are contained.
30
35
4. The use as claimed in claim 3, characterized in that the N-alkylol-functional comonomer units having a C₁- to C₄-alkylol radical are contained.

5. The use as claimed in claim 4, characterized in that one or more comonomer units derived from N-methylolacrylamide (NMA), N-methylolmethacrylamide, N-methylolallylcarbamate, C₁- to C₄-alkyl ethers of N-methylolacrylamide, N-methylolmethacrylamide and N-methylolallylcarbamate, and C₁- to C₄-alkyl esters of N-methylolacrylamide, of N-methylolmethacrylamide and of N-methylolallylcarbamate are contained.

10

6. The use as claimed in any of claims 1 to 5, characterized in that the polymers used are vinyl acetate polymers, vinyl acetate/ethylene copolymers, vinyl acetate/ethylene/vinyl chloride copolymers or vinyl ester/acrylate copolymers.

15

7. The use as claimed in any of claims 1 to 6, characterized in that the choice of monomers or the choice of the amounts by weight of the comonomers is made so that the polymers have a glass transition temperature Tg of from -30°C to +120°C.

20

25

8. The use as claimed in any of claims 1 to 7, characterized in that the amount of protective colloid is from 1 to 30% by weight, based on the weight of the polymer.

30

35

9. The use as claimed in any of claims 1 to 8, characterized in that one or more protective colloids from the group consisting of polyvinyl alcohols, polyvinyl acetals, polyvinyl-pyrrolidones, celluloses, cellulose derivatives, poly(meth)acrylic acid, copolymers of (meth)acrylates with carboxy-functional comonomer units, poly(meth)acrylamide, polyvinylsulfonic acids and copolymers thereof, melamine-formaldehydesulfonates, naphthaleneformaldehydesulfonates, styrene/maleic acid and vinyl

ether/maleic acid copolymers, starch and dextrins are contained as the protective colloid.

10. The use as claimed in claim 9, characterized in
5 that polyvinyl alcohols having a degree of hydrolysis of from 85 to 94 mol% and a Höppler viscosity, in 4% strength aqueous solution, of from 3 to 15 mPa·s (method according to Höppler at 20°C, DIN 53015) are contained as the protective
10 colloid.
11. The use as claimed in any of claims 1 to 10, characterized in that the starch is used in natural form, as destructured starch or as
15 chemically modified starch.
12. The use as claimed in any of claims 1 to 11, characterized in that the protective colloid-stabilized polymers are used in the form of their aqueous dispersion or polymer powder in an amount
20 of from 5 to 60% by weight.
13. The use as claimed in any of claims 1 to 12, characterized in that the starch composition is
25 used as adhesives.
14. The use as claimed in any of claims 1 to 13, characterized in that the starch composition is used for further processing to give moldings.
30
15. The use as claimed in claim 14, characterized in that the further processing is effected by means of extrusion, extrusion blow molding, foam extrusion, injection molding, calendering or
35 thermoforming.
16. The use as claimed in claim 15, characterized in that the starch composition still contains additional binder based on biodegradable

polyester.

17. The use as claimed in claim 15, characterized in that the starch composition still contains cellulose fractions in the form of wood particles, wood fibers and woodmeal.
5
18. The use as claimed in claim 15 or 16, characterized in that the further processing is effected to give rottable moldings.
10
19. The use as claimed in claim 15 or 16, characterized in that the further processing is effected to give rottable films.